The pulmonary alveoli were full of blood, and the vessels contained colonies of micro-organisms; the capillaries and some larger vessels were completely blocked with swarms of streptococci, which exhibited a typical chain formation. These micrococci were $\frac{1}{7000}$ in. in diameter. There were no free micrococci. No inflammation and no necrotic layers were seen around the plugged vessels. Sections of the tonsils showed several of the vessels plugged with streptococci. The importance of the observation of two cases of idiopathic purpura hæmorrhagica associated with the presence of micro-organisms was very great. These micro-organisms formed colonies; other kinds did not form vascular plugs (except the typhoid bacillus). The question whether there was an entrance of specific germs from without or whether organisms had penetrated into the blood from the alimentary tract was considered.—*Lancet*, February 23, 1884.

SURGERY.

Antiseptic Surgery in its Applications to Field-Service.

At a meeting of the Woolwich Military Medical Society on February 15, 1884, Surgeon-Major C. H. Godwin read a paper on this subject. In the discussion which followed, Sir Joseph Lister, who was present, said that it is essential that all the surgeons concerned in the treatment of wounded men should be imbued with the idea of the importance of antiseptic principles. It is of no use for the surgeon who first treats a wounded man to act antiseptically, if the one who follows him does not do so; nor, conversely, is it of any use for the surgeon in the field-hospital to be ever so good an antiseptic surgeon, if his predecessor has defiled the wound. Then, again, as to the other point, in civil practice we may go to any amount of expense almost in our materials; we may have our materials as bulky as we please; but in military practice it is, I conceive, essential that the materials should be cheap, and that they should be, so far as the first treatment of the wounded man is concerned, capable of being employed in small bulk. Reyher divided his cases into the *befingerte* and the *unbefingerte*, cases which had been fingered by somebody before him, and cases which nobody before him had fingered. He said he happened to have had fourteen cases of gunshot-wound of the knee-joint; seven were fingered cases, and seven unfingered. The seven fingered cases had all died except one; he was still living, but he was in high fever, and Dr. Reyher was afraid he might succumb. Of the unfingered cases, all were alive, and only one had had fever, but Dr. Reyher said he had also had a considerable portion of his face shot away; this could not be treated antiseptically, and the fever was so explained, and he said, "Are these not remarkable results?" So much for Reyher and his principle that, as Surgeon-Major Godwin has said, what should be done in the first instance should be simply the covering up of the wound with some antiseptic material, and as little fingering as possible.

I should like to say a word or two with regard to simplifications of the treatment both in the field-hospital and at the front. First, as regards the field-hospital. Allusion has been made to the spray. I have long since held and taught that, of all the parts of the antiseptic system, the spray is the least important. It would not at all break my heart if I were told that I should never be allowed to use the spray again in my life; I am satisfied I could, by other means, get essentially the same results. Many German surgeons do not use the spray; therefore, the fact that the spray is an incumbrance is not, to my mind, an argument against the use of the antiseptic treatment by military surgeons. I do not desire that the spray should be used in military practice. I believe essentially the same results can be got without it; and, if the military surgeon is to conceive that he cannot carry out antiseptic treatment except with the spray, I believe he will be very greatly embarrassed. The spray-apparatus is likely to get out of order; he will be constantly called upon to operate in circumstances where the spray is interfered with, by draughts of air, and so on, in tents; and it is much more important for him to confine his attention to other matters than the spray. If, when the operation has been done, he wash the wound well with some reliable antiseptic solution, the chances are immeasurably great that he will get as good results as if he used the spray. That is one point of simplification.

Then, as to an antiseptic lotion, you are aware, doubtless, that corrosive sublimate has been shown to have very wonderful antiseptic properties. Corrosive sublimate, at the same time, is an exceedingly cheap substance; it costs wholesale only about two shillings a pound, and an exceedingly small quantity is sufficient as an antiseptic lotion—one part to a thousand parts of water. This, it seems to me, is a very important matter. It is very much cheaper than such carbolic acid as is fitted for satisfactory use; I do not refer to the crude impure kinds, which are not satisfactory. Corrosive sublimate has been used in connection with what has been termed wood-wool, a curious term, no doubt—that is, a soft material, made by tearing up pine-wood into a sort of woolly substance. The corrosive sublimate in this wood-wool, the wood-wool itself being excessively cheap, is used in the proportion of a half per cent. of the weight of the wood-wool, with an equal part of glycerine. The objection to this wood-wool is its bulk; for, if it is to be used satisfactorily, the small proportion of the corrosive sublimate renders it necessary that it must be used in a large mass, otherwise the corrosive sublimate would be washed out prematurely by the discharges. I am at present engaged in some experiments with a view of seeing whether corrosive sublimate could not be used in a more manageable form; and I may mention here what I have never mentioned publicly before, which, as far as I know, is a new fact in chemistry—that corrosive sublimate turns out to be wonderfully soluble in glycerine. It is soluble in one and a half times its weight of glycerine in the cold. It takes sixteen parts of cold water to dissolve corrosive sublimate; it takes several parts of spirits of wine; but glycerine dissolves it with remarkable avidity; and I believe that here in fact will lie the key to the application of corrosive sublimate in a more compact form, and therefore more convenient for military service than the wood-wool. It is, perhaps, foolish of me to mention this, except that I wish to refer to that point of solubility in glycerine in another aspect directly; but meanwhile, if the wood-wool has been proved to be efficacious with the corrosive sublimate, there is this, I think, that may be borne in mind by military surgeons; that, if they have rags in abundance (rags are really the same thing as wood-wool—the same chemical substance, highly absorbent as the wood-wool is), rags answer in the same bulk as the wood-wool. If you have a mass of old sheeting or any sort of old rags at your disposal, if you dissolve corrosive sublimate with an equal part of glycerine in two hundred parts of water, steep the rags in this, and then hang them up to dry, you will have a dressing which can be certainly very easily prepared, and which, as the experience with wood-wool shows, I feel confident must prove efficacious if used in sufficient mass.

Then as to the dealing with the wounded in the first instance, I have already expressed my perfect concurrence with Dr. Reyher, that the less that is done in the way of handling the wound the better, because the surgeon must be under great difficulties dealing with a number of men together, and without his hospital appliances. Nevertheless, as has been stated, there are circumstances in which he must interfere; particularly in hemorrhage, when he must tie a bleeding vessel.

Now, as to the antiseptic solution which he should use, I believe he will find the solubility of corrosive sublimate in glycerine very valuable. Corrosive sublimate, as I have said, is soluble in one and a half parts of glycerine; one drachm then of this solution will prepare a watery solution of corrosive sublimate (1 to 1000) to the amount of one and a half pints, so that it will be in this way extremely portable. Corrosive sublimate is somewhat difficult to dissolve in water, except by aid of heat; but if you have it first dissolved in the glycerine, pour a little of this into water and diffuse it, you will have your antiseptic solution for washing sponges, the hands, and so forth, very easily prepared. I trust that the surgeon will always have an aseptic sponge; and this he can also do by means of corrosive sublimate more easily than with carbolic acid, simply from the fact that corrosive sublimate is not volatile. If sponges be purified with carbolic acid, and kept for a considerable time, the carbolic acid will leave them, and you cannot be sure that they are pure; but if you have them purified with the 1 to 1000 sublimate solution, you will be sure they are pure, whether they have been kept for a week or a year.

Then, as to the material with which the vessel should be tied, I cannot but think that it is an improvement that the catgut which we now use need not be kept in the bottles of oil in which old carbolized catgut used to be kept. It is kept in the dry state as easily as silk, and all that has to be done before using it is to put it in the antiseptic solution for a very few minutes.

As to the first dressing that should be used, it is certainly a very difficult matter to have some material that shall be portable, of small bulk, and at the same time shall give a fair promise of being effectual antiseptically. I am inclined to think, in the present state of our knowledge, that iodoform is the agent which promises best for this purpose. It is by no means the most powerful, but still it is a very excellent antiseptic. It does not seem to be able to destroy the poison of erysipelas as easily as carbolic acid, for example; and it certainly does not destroy various bacteria, as we have ascertained by experiment, nearly as well as carbolic acid, and some other of the more powerful antiseptics. Nevertheless, those who use iodoform, and I have used it a great deal myself, must confess it is really a very satisfactory agent as a dressing, used, for instance, in the form of iodoform-wool. It has this very great advantage, that, while it has this really valuable efficacy as an antiseptic, it is exceedingly little soluble in water or in the discharges that come from the wound, so that a very small quantity of it lasts a long time, while at the same time it is almost absolutely free from irritating properties. This is a very wonderful combination of advantages; and I am disposed to believe that dusting the wound over with the iodoform-powder, and then covering it over with some absorbent substance is, in the present state of our knowledge, the best thing that can be done for the wounded man in the first instance.

It so happens, only this very day I was reading an account, by Dr. Ladislas Lesser of Leipsic, on this very subject, and he proposes that antiseptic powder should be carried by the soldier in an empty cartridge. This, he considers, would contain a sufficient amount for the treatment of wounds. He says, as to the particular antiseptic, he does not wish to dogmatize upon that. He recommends two parts of boracic acid powder and one part of iodoform powder. I am inclined to think, myself, it would be more prudent to use the iodoform powder pure; because if the antiseptic is to be carried in small bulk, it should be very effective in proportion to its bulk, and the boracic acid is by no means so powerful for equal bulks as iodoform is. He recommends, then, that the soldier should have a cartridge full of this antiseptic powder; that he should have wrapped round this a bandage composed like these bandages which Mr. Stephenson has shown us this evening, corresponding a good deal to our antiseptic gauze, of open cotton texture, impregnated with spermaceti, which may be a very good thing, as it will not stick to the wound as cotton-wool would. He recommends that round the cartridge containing the antiseptic powder should be wound this bandage, about four yards long, and round this again a piece of absorbent cotton-wool, which will go into very small bulk, and round this a three-cornered cotton handkerchief. Then he points out in what way these should be used. First of all the wound should be sprinkled with the powder, a few turns of the bandage put round, the absorbent cotton put over this, then the rest of the turns of bandage, and then the three-cornered handkerchief, used in the case of injuries to the arm, in the form of a sling. I am inclined to think that these suggestions of Dr. Lesser's are exceedingly good. I will only say that perhaps the little box containing the iodoform might be made with advantage in the form of a small dredging box, with small perforations in the lid covered with a cap. If there were a little space in the cartridge-box for this little dredger, then the other matters might, as Dr. Lesser says, instead of being packed round the box, be carried in the soldier's pocket, or, as was suggested, sewed in under his coat. If every soldier had material of this kind by him, it would certainly be a very important matter. A dressing of this kind would often answer the whole purpose. It might be left on in the case of smaller wounds till the healing was complete, or, at all events, for twenty-four or forty-eight hours, or even longer. It would be found, I believe, to keep the wound aseptic in the majority of cases.—*British Medical Journal*, February 23, 1884.

Operation on the Brain for the Relief of Left Hemiplegia.

At the meeting of the Pathological and Clinical Society of Glasgow, on January 21st, Dr. MACEWEN showed a patient whose brain had been operated upon for the relief of left hemiplegia, and who has recovered the power of movement to such an extent as to enable her to walk freely about, though with a paraplegic gait; to raise her arm to the level of her shoulder, and to grasp with considerable power, though there is a deficiency in co-ordination of movement of the hand. She had a syphilitic history. The hemiplegia was preceded by a tingling sensation and a numbness of the left arm and leg, which increased until it ended (within six weeks from the commencement) in complete motor paralysis and a deficiency in the perception of touch. The left side of the face was also slightly affected. This was accompanied by mental confusion and loss of memory.

Full anti-syphilitic treatment had been tried along with counter-irritation to the head, previous to her coming into the Royal Infirmary, and while she was in the medical wards of that institution. These did not seem to have relieved in the slightest the condition spoken of above.

Trephining was performed over the middle of the ascending frontal and parietal convolutions. Internal table of the disk removed was found softened and thicker than usual, having on its internal surface a series of projections or roughnesses, some protruding for nearly one-eighth of an inch beyond the general level. A second opening was made over the occipital region, and a similar thickening of the internal table was found. Opposite to the first opening the dura mater was paler than normal, and somewhat thickened. It was elevated, and a false membrane of yellow colour, and about one-sixteenth of an inch in thickness, was removed. An incision was made into the brain in the direction of the paracentral lobule, when a gush of grumous red-coloured fluid escaped out of the opening. Its quantity was not measured, as it could not have been collected. Approximately, there would be about a couple of drachms. The brain pulsations previously were not discernible, but, after the escape of this collection of fluid, it was thought that very feeble pulsations were seen. Some of the surgeons standing by doubted the presence of the cerebral pulsation. The disks of bone were carefully divided into segments and replanted, and are now quite firm. Wounds treated without pus production.

The day after the operation she expressed herself as very much better. On the third day she moved her toes. Within a week she lifted her leg from the bed and stated that she was so much better that she could turn in bed, and believed she could walk. The fingers were moved within a week. Her mind greatly changed for the better, her memory improving and her intelligence becoming much brighter. She can now walk freely about, and does a considerable amount of domestic duty in the ward. She lifts her arm to the level of her shoulders, and can grasp with considerable force.

Dr. FINLAYSON said that he had lately had the opportunity of seeing this case, at Dr. Macewen's request, in private, and he thought that there could be no possible doubt that the improvement which had taken place was due to the operation. It is known that in such cases as this, remarkable improvements do take place as the result of purely medical treatment, but in this case it is certain that the improvement was due to the operation. This method was quite a new one, and depended greatly upon the advances that had in recent years been made in cerebral localization. It was quite different, too, in its nature from operations on brains injured by violence. Although the case shown to-night was a very successful one, yet advance in such a procedure could scarcely be expected without a certain number of misfortunes.—*Glasgow Med. Journ.*, February, 1884.

Nephrectomy for Rupture of the Kidney.

Dr. HENRY G. RAWDON reports the case of a boy, æt. 12, who had fallen from a window, a distance of eight feet. Blood was passed in the urine and he complained of pain in the right side, which became more severe in a few days, and extended to the region of the bladder. Thirteen days after the injury the urine, which was very fetid, was drawn off, and the bladder washed out with a solution of permanganate of potash. On the next day the subcutaneous injection of ergotine was tried several times. The pain referred to the penis became more intense, and the tremors more marked and of longer duration. The catheter which was used for washing out the bladder was found blocked with broken-down clots.

He was now suffering from cystitis with irritative fever, caused by the decomposition of the blood clots, and aggravated by repeated attacks of retention.

Two days afterward the right kidney was removed by the lumbar incision. The kidney was found imbedded in a mass of old and recent clots, which pushed it considerably forward; it was also found to be almost divided into two equal portions by a transverse laceration from its outer border towards the hilus. Four days after the operation he became worse, gradually sank, and died on the forty-first day after the injury. A partial autopsy showed the following: A piece of the upper portion of the right kidney the size of a small walnut was found; it appeared healthy, as was also the corresponding ureter.

The left kidney was enlarged, and on section showed numerous points of suppuration, and a small abscess was found under the capsule. Both the pelvis of the kidney and the ureter were considerably dilated, and filled with pus; the lining membrane was rough and covered with phosphatic granules.

The bladder was contracted, its mucous membrane was raw-looking and thickened, and coated with phosphates. At the fundus of the viscus, and adherent to it, was a solidified and partially organized mass full of phosphatic deposit—not improbably the remains of old blood-clots.

The peritoneum and the other abdominal viscera were healthy.

Death appears to have been due to the mischief in the left kidney. The putrefaction of blood-clots in the bladder, together with the frequent attacks of retention, caused inflammation, which had extended to the kidney along the ureter. The earlier performance of cystotomy might have averted some of these consequences.

The chief features of the case may be briefly summarized, namely, nephrectomy was performed on the seventeenth day, cystotomy on the twenty-first day, and death took place on the forty-first day after the injury to the kidney.

The patient lived twenty-four days after nephrectomy had been performed.—*Liverpool Medico-Chir. Journ.*, Jan. 1884.

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Congenital Hydrocele, Treated by Ligature of the Neck of the Sac.

Mr. F. A. SOUTHAM reports the case of a youth, æt. 18 years, who had a congenital hydrocele of the tunica vaginalis of the right side. He was ordered to wear a truss day and night, in hopes that the canal between the peritoneal cavity and the tunica vaginalis might be obliterated by the pressure. This treatment was continued for three months, but without any appreciable result.

It was then determined to perform a radical cure by ligaturing the neck of the sac, as in the plan often adopted in the radical cure of hernia. An incision an inch and a half in length was made in the direction of the cord, commencing above directly over the external ring. The cord having been exposed for the same distance, the neck of the sac, which was about the size of a goose-quill, was carefully dissected from it, and then ligatured with strong catgut in two places, namely, just below the external ring and at another point about one inch lower down, care being taken not to include the cord in the ligatures. The neck of the sac was then divided between these two points, and the external wound closed, a small drainage-tube being left in the lower part of the incision. The operation was performed under the carbolic spray, and the wound dressed according to the Listerian method. The wound was completely healed on the seventh day, and the patient left the hospital nine days later, there still being slight swelling of the scrotum, owing to the presence of a little fluid in the tunica vaginalis; but in the course of a few weeks this gradually disappeared, on painting the skin with tincture of iodine, and keeping the parts well raised in a suspensory bandage. When the patient was last seen, about six months after the operation, all trace of the hydrocele had quite disappeared.

Congenital hydrocele, though not uncommon in infants and young children, usually disappears as the child grows older, especially if a truss be constantly worn, the irritation produced by the pad setting up slight inflammation in the neck of the sac, which, as a consequence, becomes obliterated. The fluid present in the tunica vaginalis, if absorption do not take place naturally, can then be readily removed by tapping, or it gradually disappears on the application of some slight irritant over the scrotum; and, as a rule, no further reaccumulation takes place. The affection is consequently of somewhat rare occurrence in adults; and the treatment by the method of radical cure employed in this instance should, as a rule, be reserved for the cases in which obliteration of the canal of communication cannot be obtained by simpler means. So long as the neck of the sac is patent, an open canal is present, along which a hernia may at any time descend—a result which it is, of course, very desirable, if possible, to avoid. The operation was, therefore, undertaken in the present case, not only with the object of curing the hydrocele, but also with a view to prevent the formation of a hernia taking place.—*British Medical Journal*, Jan. 26, 1884.

Excision of Syphilitic and Soft Chancres.

In the *Vratch*, 1882, No. 33, Dr. V. M. Zakharevitch, on the ground of fifteen cases operated on by him during three years, ardently advocates excision both of syphilitic and of soft chancres, and lays down the following rules: 1. Syphilitic chancre must be excised in all cases where its situation permits the fullest possible operation, and when the swelling of the lymphatic glands is not older than two days. 2. Similarly, soft chancres must be excised in all cases where the operation is permitted by their situation. The advantages of excision of soft chancres, as enumerated by the author, are these. *a.* In some cases, excision, with subsequent suturing, leads to healing by the first intention, and thus shortens the period of healing of a chancrous ulcer to the extent of a few days. *b.* It shortens the process of healing to a half or a third of the usual time, even in cases where the operation has not been followed by the application of sutures. *c.* It removes all question of mistakes in diagnosis, with their consequences (the author finds that hard chancre in its initial stage is frequently mistaken for a soft ulcer, in consequence of which the excision is practised only too late). 3. When there exists the slightest suspicion of the real character of a chancroid ulcer, excision must not be followed by the use of caustics or the application of sutures; otherwise, if the induration of the wound appear, it may come to observation only too late for treatment (that is, for repeated excision). 4. Excision must be performed under the permanent irrigation of the field of operation, while the operator must most strictly avoid touching the wound with the fingers or with instruments bearing any traces of chancrous fluid.—*London Med. Record*, Feb. 1884.

Infective Osteo-Myelitis.

One of the latest researches undertaken in Dr. Koch's laboratory at the Imperial Board of Health, Berlin, has been directed to the part played by micro-organisms in acute osteo-myelitis; and a preliminary report, issued by the observer, Dr. Struck, appears in a recent number of the *Deutsche medizinische Wochenschrift*. The inquiry was undertaken with the view of confirming the statements of Professors Schuller, Rosenbach, and others as to the presence of micro-organisms in this disease, and also by means of culture experiments to isolate these bacteria and reproduce the disease by inoculation in animals. It is needless to say that the research was conducted with the greatest care to prevent external contamination, and that it followed strictly the lines which have yielded so much fruit in similar investigations upon other diseases. The material employed in the first instance was the pus obtained, under strict and antiseptic precautions, from osteo-myelitic abscesses in five cases. The pus was collected in pure, sterilized vessels, which were then carefully closed; it was yellowish in colour, and had an odour resembling that of yeast. Drops of this pus, collected and dried on cover-glasses, and stained with methyl blue and fuchsin, revealed the presence of large numbers of micrococci, corresponding to those already photographed by Dr. Koch in similar cases. The "potato culture" of this pus resulted in the development, on the surface of the portion of boiled potato employed, of an orange-coloured layer, which appeared at the end of twenty-four hours after exposure to a temperature of 30° C., becoming more developed in a few days. Microscopical examination of this material showed it to be composed of masses of micrococci corresponding in size to those found in the pus. Cultures were also made in blood-serum and gelatine, and in each case with a like result, the development of the organism producing first a turbidity and then a distinctly orange-coloured deposit at the points at which the pus had been introduced into these media; the gelatine became fluid as the growth proceeded. The products of these several cultures were then inoculated on mice, guinea-pigs, and rabbits, by subcutaneous injection. No result followed, either locally at the site of inoculation or generally; it was inferred that, introduced in this way, the micro-organism could not develop pathogenic properties. Rather larger quantities (from 0.2 to 1 cubic centimetre) were injected into the abdominal cavity, which resulted in the setting up of peritonitis, but without any signs of lesion of the bones. Similarly, injections into large veins were without effect when small quantities were used, and only produced toxic results (but not osteo-myelitis) when the material was employed in greater amount. These negative results therefore suggested that the conditions were not parallel to those obtaining in man, and that some traumatic lesion of the osseous system was essential for the production of osteo-myelitis when the virus was introduced into the circulation; and this proved to be the case. The experiment was varied by inflicting on the animal, a few days before the inoculation was practised, an injury sufficient to crush or fracture a bone of one of the limbs. Of fifteen rabbits so dealt with, only four showed no effects after injection into the blood of from 0.5 to 1 cubic centimetre of the material. In each of the others the animal became dull the day after the inoculation and refused food, and in the course of some days the injured limb became very swollen and tender, with formation of abscess, death resulting in twelve or fourteen days. In each instance a large quantity of the characteristic pus was seen around the injured bone and within its medullary cavity; and in three cases small metastatic foci occurred in the lungs and kidneys. The pus in all these parts abounded with micrococci; the blood also contained them. One rabbit had pericarditis.

These experiments appear to be conclusive, and they point to the rather instructive fact that, in order to produce osteo-myelitis of this acute infective type, not only must there be a specific virus in the system, but there must also be a local inflammatory process, or, if it be preferred, a local injury to the tissue, which becomes the seat of infective inflammation in the presence of the prime factor—the virus in the blood. How far this may be in accord with clinical experience we will not now venture to inquire; but it is worth remembering that cases of osteo-myelitis and acute necrosis are mostly met with in subjects in whom the general health is already impaired, and where a comparatively slight injury may evoke this severe local inflammation.—*Lancet*, Dec. 8, 1883.

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The Direct Treatment of Spinal Caries by Operation.

At the meeting of the Royal Medical and Chirurgical Society, on Jan. 8th, Mr. FREDERICK TREVES read a paper on this subject.

He said that the gravity of spinal caries depends not so much upon any single pathological feature in the process as upon the depth at which the disease was situated, and its inaccessibility to the usual operative procedures applied to caries elsewhere. Diseased bone could not be removed from the vertebral bodies, and the morbid products, having to travel a great distance in order to be evacuated, were apt to induce immense purulent collections. These collections were usually opened at a point remote from the original seat of the disease. In the operation proposed by the author, the anterior surfaces of the bodies of all the lumbar vertebræ, and—with some reservation—of the last dorsal vertebra, could be reached from the loin. A vertical incision was made near the outer edge of the erector spinæ; the sheath of that muscle and the quadratus lumborum were cut through; the psoas muscle was incised, and the vertebræ reached by continuing the operation along the deep aspect of that structure. The details of the procedure were fully described. By means of this operation the vertebræ could be readily examined, carious or necrosed bone could be removed, and a ready and direct exit could be given to all morbid products; an abscess situated in the psoas muscle or in the lumbar region could be evacuated while it was yet small, and before it had led to a large abscess-cavity. If a large psoas or lumbar abscess existed, it could be evacuated at its point of origin, and at a spot that, in the recumbent posture, corresponded to its most dependent part. If Hueter's statement were true, that the two vertebræ most frequently attacked by caries were the last dorsal and first lumbar, the operation should be capable of frequent application. The author detailed three cases in which he performed this operation. All the patients made a good recovery. In one of the instances he evacuated at its point of origin a psoas abscess containing forty ounces of pus, and removed from the body of the first lumbar vertebra a large sequestrum measuring one inch by half an inch. The immediate improvement in this patient's condition was very marked. In another case, the psoas abscesses had been opened in the thigh some months previously. By this operation a counter-opening was made at the point of origin of the abscess from the lumbar spine, and the entire abscess-cavity was drained by a large tube passing from the origin of the psoas muscle to its insertion.

Mr. Bryant thought that it could hardly be said fairly that more than a small proportion of the cases of psoas abscess would be wisely treated as Mr. Treves had suggested. There were some to which it would be particularly applicable, viz., those abscesses which originated in the psoas muscle without any connection with the spine—arising from a strain, or sprain, or rupture—and which spread up sometimes so as to affect the spinal column secondarily, so that it became superficially diseased by contact with pus. If free and convenient exit for the pus were afforded, such cases might heal by granulation. The drainage-tube which Mr. Treves had used, and which was about half an inch in internal diameter, seemed to him probably unnecessarily large; such a matter, however, could only be determined by experience. Treatment of this sort was not entirely new; he had himself treated five or six cases by drainage above the ileum; in two, he had taken away small portions of bone from the ileum, which had become diseased, probably from pus, and he had long been looking for cases where such treatment might be more freely used.

Mr. Noble Smith thought that no operation should be performed except when there was no improvement for a long time and some source of irritation, and that incision should not be made early. The chief cause of death in these cases of psoas abscess arising from spiral caries was, he thought, the imperfection of the attempts made to fix the spine. He had himself effected complete mechanical fixation of the spine in twenty-five cases, and in all those cases there had been care or progressive recovery. The details of fifteen of them had been published, and he hoped to publish the rest.

Mr. Savory said that he would first object that by no reasonable operation could a sufficient area be exposed for the removal of bone. Still, he had no practical experience of Mr. Treves's operation, and could only adduce a kindred operation which he had seen performed for the replacement of the parts of a fractured spine. In that case, the danger of the operation had impressed him very strongly; the risk from hemorrhage or injury to the spinal cord was very great. It might justly be objected that the tissues of a chronic invalid were very different from those of a healthy man after a sudden accident; but still he was inclined to regard Mr. Treves's method of treatment as almost entirely impracticable. If comparison were made with a very much easier set of cases—diseases of the tarsus—it would be universally recognized that even there it was not easy to say in an operation what was being removed; and how thankful the operator was for the sue of an Esmarch's bandage, which made exploration comparatively easy! But in any operation on the bodies of spinal vertebræ—where the hemorrhage was likely to be profuse, and where touch probably was the only guide—he could hardly help thinking that the conditions rendered it unjustifiable. And the second objection he felt strongly also—viz., that, unless these operations were done at the right time, they would do more harm than good. Caries was not a disease in itself; it was the result of a previous inflammation, the area of which extended far beyond the caries. Operations whilst the disease was advancing were likely to extend the inflammation and to extend the caries, its sequela. If we could hit on the time, as Mr. Treves had done in his first case, when there was a sequestrum, the operation would be of the greatest profit, for it would be a possible way of getting rid of a hopeless obstacle that could not be got rid of in any other way. But, unfortunately, there were no means that he knew of for the diagnosis of sequestra. It might be answered, then we should explore. But should we be justified in using such severe measures for what might very possibly indeed be a case that might be cured by many natural causes? To act after such a plan would suggest an operative mania.

Mr. TREVES, in replying, said that the object of his paper had been mainly anatomical, viz., to show the best route by which to reach the spine and to open a psoas abscess. The sequestrum which he had met with in his first case had not been diagnosed beforehand, and was a rare accident. To attempt to scoop out carious bone he agreed was out of the question. He was inclined to agree with Mr. Bryant, insomuch as he thought he had found the bone bared by the neighbourhood of previous pus. The evacuation of the pus was then much to be desired. The very large drainage-tube he had only adopted after trials of smaller ones, and he had found it answer well. Against the method of mechanically fixing the spine, as advocated by Mr. Forneaux Jordan and Mr. Noble Smith, he felt bound to protest strongly, for it led to the most unfortunate results in lay opinion. If the spine were said to be affected it was very commonly the first idea that "an apparatus" must be got, and there all attempt at treatment was apt to end. He did not agree with Mr. Parker that it was better to open the abscess above Poupart's ligament than below, for he had found it more difficult and less effective as a drain. He quite agreed with Mr. Savory that in healthy subjects no room for operation could be obtained, but in the diseased cases the vertebræ had been largely exposed by the abscess, otherwise the operation would be nothing less than barbarous.—*British Medical Journ.*, Jan. 12, 1884.

Removal of Right Arm, Scapula, and Half of the Clavicle.

At the meeting of the Medico-Chirurgical Society of Edinburgh on January 16th, Dr. MacGillivray exhibited for Dr. HERON WATSON, the right arm, scapula, and half of the clavicle of a gentleman about 50 years of age, removed on account of an enormous enchondroma involving the upper part of the arm and shoulder. The patient had suffered from similar tumours of both hands for many years, and at one time the middle finger of the right hand had been amputated by the late Professor Syme on account of its inconvenient curled-up position in the palm. The other fingers of both hands were also affected, but caused little inconvenience. After the operation he went to India, where he carried on his usual avocations, and was able to write, ride, and play lawn tennis until quite lately. Eighteen months ago he noticed a slight swelling in the upper part of the arm, and this had steadily gone on increasing. The elbow-joint also became preternaturally mobile, and was deformed by several nodular masses. He, however, allowed the tumour of the shoulder to increase to an immense size, until, indeed, the arm became practically useless, and the pressure on the axillary plexus occasioned great pain. He then came home, and was seen by Dr. Heron Watson, who recommended the entire removal of the affected parts. The arm, scapula, and the outer half of the clavicle were accordingly amputated about three weeks ago. The patient never had a bad symptom. The dressing was not changed for a week, when all except the opening for the drainage-tube was found to have healed by first intention, and the patient was now perfectly well.—*Edin. Med. Journ.*, February, 1884.

Flat-foot, and its Cure by Operation.

At the meeting of the Medical Society of London, on January 14th, Dr. ALEXANDER OGSTON (Aberdeen) read a paper, in which, after emphasizing the fruitfulness of the ordinary and usual methods of treatment, he entered into a discussion of the causes of flat-foot, and the mechanism of its production. The appearances observed in it were held to be due to a falling down of the inner side of the plantar arch, and this was mainly owing to a yielding of the astragalo-scaphoid joint in the sense of dorsal flexion. The deformity, in his experience, generally occurred in connection with rachitis adolescentium. Of this, evidence was found in rickety knottings of the bones, and other symptoms of rickets; as a rule, there had also been an amount of labour beyond the strength; in one boy, however, who was very fat, the flat-foot appeared at 8, without any other apparent cause. Pes valgus was a misleading term; the valgus was not a necessary part of the deformity. Valgus-ankle also was a different deformity; it was seen in young girls, and caused so much displacement at the ankle-joint that the malleoli struck each other in walking. In true flat-foot, on the other hand, the ankle-joint did not participate, but the arch of the foot became unfolded so as to touch the ground along the whole inner border. Examination of a foot in this condition might show relaxation of all joints, but especially, and in great degree, in the astragalo-scaphoid joint. When deformity existed to only a slight degree, it might disappear at once on lifting the foot from the ground. A slight aching pain was complained of; and in such cases an error of diagnosis was very liable to occur, owing to the condition of flat-foot only being present when the foot was on the ground being overlooked. In process of time, the deformity became permanent, and no longer disappeared when the weight of the body was taken off. Alteration in the shape of the bones finally occurred, so that, even by the use of force, the arch of the foot could not be restored. The relaxation of the astragalo-scaphoid joint and the alteration in the bones were, he considered, the key to the deformity. As a secondary event, deformity of the great toe occurred, and, in extreme cases, the form of the foot was so altered as to become "canoe-shaped," the calcaneum being so displaced, the posterior part being tilted upwards, that the heel could not be brought to the ground. The cure was arrived at by causing anchylosis at the astragalo-scaphoid joint after it had been restored to position. Several methods, having this object in view, had been tried, but the best results had been obtained by the following operation: An incision was made on the inner border of the foot, parallel to the sole and over the joint; the joint was freely opened; the surfaces of the scaphoid and astragalus were denuded of their articular cartilage; the arch of the foot was restored to position, and the joint fixed by ivory pegs passing through the two bones. In some cases the patients had been able to walk in two months, but as bony union occurred slowly in persons liable to flat-foot, he considered three months' rest in stiff bandages necessary to insure bony anchylosis after the operation. In one patient only a little tenderness remained for some time, and, five months after the operation, one of the ivory pegs was extruded through a small painless sinus. The operation proved successful in seventeen cases performed on ten patients. The plantar was not generally completely cured, but all the patients, with the exception of the men in whom the peg was extruded, considered themselves, when seen at considerable intervals after operation, cured. He observed the strictest antiseptic precautions (Listerian).

Mr. BRYANT thought that the operation was a valuable one to be applied to suitable, that is, severe cases. A very similar operation had been performed by Mr. Golding Bird.

Mr. DAVY did not feel convinced of the utility of the operation recommended by Professor Ogston. He looked with disfavour on any operation which tended to diminish the elasticity of the inner three-fifths of the foot, and felt sceptical as to the permanent benefit likely to be derived from it.

The PRESIDENT thought the operation promised to give great relief in some cases. He inquired whether anything could be done to remedy and prevent the aggravation of flat-foot in young children before structural changes had taken place.

Dr. OGSTON said that in none of the cases had contraction of the tendons been a prominent symptom. He had no experience of the operation in very severe aggravated cases, where the deformity amounted to the canoe-shaped foot. With regard to the question as to what became of the ivory pegs, he observed that Reidinger and Trendelenburg had shown that ivory pegs might become eroded and vascularized, but the occurrence had never come under his observation. His operation had been performed on "adolescents" between the age of thirteen and seventeen, or a little older. He had never, in any of his cases, met with a rise of temperature above 100° Fahr., or any symptoms of fever.—*British Med. Journ.*, January 19, 1884.

Ligation of Carotid and Subclavian for Innominate Aneurism.

Dr. CAMERON showed, at the meeting of the Pathological and Clinical Society of Glasgow on November 13th, a patient upon whom this operation had been performed. She was a widow, aged 57, who consulted him on account of a pulsating tumour just above the right sterno-clavicular articulation. She first became aware of its presence about four years ago, but had paid little attention to it until lately, when she was informed of its serious character. The tumour, which was clearly aneurismal, extended for some little distance into the neck, and reached outwards in the form of a pointed and prominent prolongation of the main swelling to beyond the outer border of the sterno-mastoid muscle.

On 24th March, he ligatured the right subclavian and carotid arteries with antiseptic catgut. It had been prepared by immersion in a one per cent. solution of chromic acid for twelve hours, and afterwards for twelve hours in the solution of sulphurous acid of the British Pharmacopœia. He placed both ligatures in watery solution of carbolic acid (1 to 20) for about half an hour before using them. That used for tying the subclavian was rather thicker than that with which the carotid was tied.

The carotid was tied immediately below the omohyoid muscle. Drainage-tubes were as usual placed in both wounds. The immediate effect of the operation on the tumour could hardly be well estimated, as the patient continued under chloroform until some time after the neck was enveloped in the dressings, pale and faint, and with a feeble action of the heart.

The stitches were removed on April 5th; on April 12th the incisions were all healed. The defined tumour, described as existing behind the sterno-mastoid muscle, cannot be recognized; but there is marked pulsation in this situation, which extends towards the sternal notch in a very pronounced manner, and is associated with much heaving there. Indeed, the heaving pulsation at this point seems to me to be more marked than before the operation, although the whole pulsating area is, no doubt, less. The dulness on percussion in the upper part of the chest, the deepened second sound, and the sense of shock on application of the hand still continue very distinct; but there is no heaving impulse to be detected there and no murmur. The radial and temporal arteries do not pulsate on the right side.

At present the patient remains very well, and in much the same state as regards the aneurism as after the operation twenty months ago.—*Glasgow Med. Journ.*, Dec. 1883.

Aneurism of the Aortic Arch after Ligature of the Carotid and Subclavian Arteries.

At the Liverpool Medical Institution, on January 11, 1884, Dr. ALEXANDER reported the case of a woman, æt. 48, suffering from an aneurism of the innominate artery or of the aortic arch at the root of the innominate.

Dr. Robertson had tried various remedies, and as these failed, and as the tumour was increasing, he sent her to the surgical wards to have the distal ligature of carotid and subclavian arteries performed.

This was done, and the wounds healed without any trouble. Some relief was obtained, the tumour subsided, and its pulsation was less forcible, but the amount of relief was disappointing.

She died six months afterward, from increasing dyspnœa and orthopnœa, and this interesting specimen was obtained. It was seen that the supposed aneurism was merely an enormously dilated aortic arch and innominate artery, without a particle of consolidated lymph in their interior. The inner coats of the dilated vessels were very atheromatous. This condition of affairs accounts for the softness and compressibility of the aneurismal tumour during life, which could be completely obliterated by the fingers as long as the patient could bear the pressure, which was not long. The heart was enormously enlarged, and through the enlargement the aortic arch was pushed up to a higher level in the neck than usual. The subclavian artery was blocked up from its origin down to the collateral branches, but the carotid artery *was quite pervious in all its extent. At the spot where the catgut ligature had been applied a white, apparently atheromatous, streak surrounded the vessel.* The ligatures used were the ordinary ligatures of the Glasgow Apothecaries' Hall, of the strongest kind. The carotid ligature had yielded too soon, and the clot had dissolved or had been safely deposited in some non-vital spot where it could be found.—*Liverpool Medico-Chir. Journ.*, January, 1884.

Gangrene after Subcutaneous Arterial Injury.

Dr. WEITZ reports the case of a young man, æt. 26 years, who came under his care in February, 1883. He had been caught by a falling tree, and had received an injury of the thigh. Soon after the injury the thigh became greatly swollen, and very painful. A few hours later he was seen by Dr. Lahusen, who found the thigh and leg swollen, and anæsthesia of the lower third of the leg and foot. There was no fracture. Weitz saw him five days later, and found the whole lower extremity swollen, and a hard cord-like body just below Poupart's ligament, which he diagnosticated as the iliac vein containing a thrombus. The great toe was coloured blue-black. The lower third of the leg and the foot were still anæsthetic, and the whole extremity was now extremely painful. The pulse of the patient was 104, and his appearance anæmic. The gangrene now spread from the toes to the foot and leg, and it was evident that amputation was indicated. Weitz wished to amputate through the leg, but found an abscess in the tibialis anticus muscle, and therefore performed the operation at the middle of the thigh. Between the quadriceps extensor and the adductor muscles was found a mass of coagulated blood. There was but very little hemorrhage from the wound, only two or three vessels bleeding, and these not so large as a digital artery.

Examination of the amputated limb showed that the muscular structures were infiltrated with pus, even the muscles on the anterior aspect of the thigh being affected to a slight extent. Both the femoral artery and vein were strongly retracted, the artery more than the vein. The ends lay in a mass of coagulated blood in the popliteal space, the vein being filled with coagulated blood. The artery was empty, and nowhere atheromatous. The patient recovered without bad symptoms. Weitz has not been able to find any similar case recorded in literature.—*Berlin klin. Wochens.*, February 18, 1884.

OPHTHALMOLOGY AND OTOLOGY.

Jequirity in the Treatment of Granular Lids.

In summing up his experience gathered from the study of sixty-five eyes treated with jequirity from July to November, 1883, Dr. F. C. HATZ draws the following conclusions:—

1. Jequirity is the best known remedy for the chronic granular conjunctivitis.
2. It is the most effective remedy for the clearing of trachomatous pannus, and in inveterate forms of pannus it is preferable to peritomy, as well as to the inoculation of blennorrhœal virus, because it does its work quicker than the operation, and safer than the inoculation.
3. It has no injurious effect upon the eye, and can be used with perfect safety, even when the cornea is ulcerated.
4. But it should not be used while the cornea and conjunctiva are acutely inflamed.
5. It does not benefit those cases of chronic conjunctivitis in which the symptoms of catarrh (increased secretion, succulence of the retro-tarsal folds, etc.) predominate over those of trachoma (enlarged papillæ, and lymph follicles, plastic infiltration of tarsal conjunctiva).
6. The most violent attacks of jequirity ophthalmia accomplish the speediest cures of granulated eyelids and the quickest clearing up of the vascular cornea. *Chicago Med. Journ. and Examiner*, Feb. 1884.

Hotz's Operation for Entropion.

Four years ago, in the 9th vol. of the *Archiv für Augenheilkunde*, Hotz described a new operation which he had found successful for the treatment of entropion. In the last vol. (13th) of the same *Archiv* he has again occasion to recommend that method, which he has employed in 177 cases. The operation consists in making a cut through the skin on a level with the upper border of the tarsal cartilage of the upper lid (lower border of tarsus of lower lid), excising the layer of muscular fibres overlying the cartilage to the breadth of 3–4 mm., and then stitching the borders of the skin-wound to the edge of the cartilage. The two points to be attended to in order to secure success by this method are—